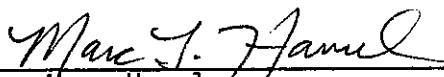


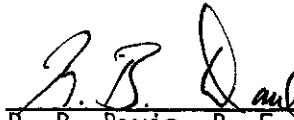
FEASIBILITY STUDY

Hickory-Brookford, Southern Loop, From
I-40 at SR 1124 to US 321 at Newton,
Catawba County
U-2532

Prepared by
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I. DESCRIPTION

This report covers a preliminary study of the proposed Southern Loop for Hickory and Brookford in Catawba County. As shown on Figure 1, this study extends from the I-40/33rd Street grade separation to US 321 in Newton. A supplemental recommendation for a 0.5 mile section from US 321 to NC 16 appears under Supplemental Recommendation below. The basic project is approximately 10.6 miles in length, and appears in the 1990-1996 Transportation Improvement Program (T.I.P.) for feasibility study and/or right-of-way protection. It is not currently funded.

II. PURPOSE OF PROJECT

The overall purpose of this project is to provide a southern loop for Hickory, which would relieve traffic on existing, through-town routes. The proposed alignment generally follows the recommended thoroughfare plan, with a realignment of the western end (see Figure 2). This vital link on the Hickory-Newton-Conover Thoroughfare Plan appears as a proposed major thoroughfare.

Existing Route Characteristics

The recommended alignment utilizes sections of existing SR 1124 (Old Shelby Road), SR 1176, SR 1144 (Sandy Ford Road), and SR 1165 (Settlemyre Bridge Road). The proposed loop will also intersect the following existing roads: NC 127; SR 1177; SR 1008; proposed relocation of US 321 (T.I.P. #R-85); SR 1240; SR 1146 (Robinson Road); SR 1148; SR 1005 (Startown Road); SR 1149 (Conover-Startown Road); SR 1155 (Church Road); and existing US 321. Each of these routes (with the exception of the proposed relocation of US 321) are two-lane, variable width (18 to 24-foot) pavements constructed through rolling terrain.

Development along the proposed alignment is primarily residential, farmland, and woodland.

An interchange with the proposed relocation of US 321 is covered in T.I.P. project #R-85 and will not be addressed in this project. Conversion of the existing I-40/SR 1124 grade separation to an interchange is covered in the T.I.P. project U-2528.

Need for Project

Justification for a Southern Loop around Hickory and Brookford stems from a need to provide (a) better traffic service for southern Hickory by reducing through-town movements, and (b) relief for heavily used existing routes. The rapidly growing southern section of Hickory will place additional demands on the existing system if this project is not implemented. Therefore, the route is a key link in the thoroughfare plan for the urban area.

III. RECOMMENDATIONS AND COSTS

The adopted Hickory-Conover-Newton Thoroughfare Plan shows a proposed alignment for the studied segment of the loop. The recommended alignment follows this thoroughfare plan alignment closely (see Figure 2). An aerial photograph showing the recommended route is on file in the Planning and Environmental Branch.

The project is divided into 3 segments for staged construction if desired:

<u>Segment</u>	<u>From</u>	<u>To</u>	<u>Length (miles)</u>
A	I-40	US 321 (proposed)	4.1
B	US 321 (prop.)	SR 1005	3.9
C	SR 1005	US 321 (exist.)	2.6

Projected (2010) traffic volumes for the studied loop range from an estimated 3900 vehicles per day (vpd) to 16,200 vpd. These volumes are indicated on Figure 2.

The recommended cross section for the entire project is a five-lane, 64-foot paved section with curb and gutter. Two bridges over the Henry Fork River are anticipated. The estimated right-of-way width used for cost estimating purposes is 150 feet. Cost estimates are provided for two and five lane sections for project staging as required. Traffic volumes indicate that Section B would be the most likely section to stage as a two-lane project initially.

The estimated cost for the recommended improvements are as follows:

<u>Segment</u>	<u>Construction Cost</u>		<u>Right-of-Way</u>	<u>Total Segment</u>
	<u>Two-Lane</u>	<u>Five-Lane</u>	<u>Cost</u>	<u>Cost</u>
A	\$5,700,000	\$10,500,000	\$800,000	\$11,300,000
B	\$5,900,000	\$10,300,000	\$600,000	\$10,900,000
C	\$2,750,000	\$ 5,800,000	\$500,000	\$ 6,300,000

Thus, the total cost of the proposed facility is \$28,500,000, with \$26,600,000 for construction and \$1,900,000 for right-of-way. The above cost estimates were prepared by the Preliminary Estimate Engineer and the Right-of-Way Branch.

IV. SUPPLEMENTAL RECOMMENDATION

It is recommended, for purposes of continuity, the project be extended to include the segment from US 321 to NC 16 in Newton. Anticipated year 2010 traffic volumes are estimated at 5700 vpd. Addition of this segment would relieve US 321 from the total burden of traffic moving north and south to Conover and Newton. The recommended cross section for this supplemental section is a two-lane, 24-foot facility.

The total estimated cost of this supplementary recommendation is \$1,350,000, including \$650,000 for roadway construction and \$700,000 for right-of-way.

V. OTHER COMMENTS

Possible negative environmental impacts of the recommended project are: (1) relocation of approximately 5 residences (2) increased noise levels for remaining properties; (3) loss of woodlands and farmlands; (4) loss of wildlife habitat; and (5) loss of a small amount of wetlands at the Henry Fork River crossings.

If this project is to be implemented at a future date, all feasible alternatives and their associated impacts will have to be evaluated in a planning and environmental document prior to that time, and a final decision made as to the most appropriate improvement.

MH/plr

